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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,964	02/15/2002	Herbert F. Cattell	10010327-1	1474

7590 03/24/2005

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

BASOM, BLAINE T

ART UNIT PAPER NUMBER

2173

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

112

Office Action Summary

Application No.

10/076,964

Applicant(s)

CATTELL ET AL.

Examiner

Blaine Basom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/22/2002</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-6, 9-15, and 18-26 are rejected under 35 U.S.C. 102(a) as being anticipated by the “ImaGene” application, as described by the “ImaGene Tutorial.” In general, ImaGene is a program for displaying and analyzing molecular array images (for example, see page 1).

Specifically regarding claims 1-5, ImaGene comprises a graphical user interface to display an image of a molecular array (for example, see pages 29-31). Feature extraction results are displayed within a “Quantified Data” dialog box, concurrently with, and correlated with, display of the molecular array image (for example, see pages 35-39; and pages 8-9). The feature extraction results include results of statistical analysis, by a feature extraction results process, of data collected from the molecular array and include one or more metrics that indicate quality of the signals extracted from the spots, i.e. features of the molecular array (for example, see pages 35-39; and pages 8-9). Such feature extraction results are understood to include the positions of features of the molecular array within the image of the molecular array (for example, see pages 8-9), in addition to results of statistical analysis of signals extracted from background regions surrounding features (for example, see pages 37-38). Moreover, the feature extraction results are understood to include one or more metrics that indicate the quality of signals extracted from background regions surrounding features of the molecular array (for example, see pages 37-38).

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These feature extraction results include numerical and textual information specific to each feature, including extracted signal intensities and positions within a coordinate system defined for the molecular array (for example, see pages 35-39; and pages 8-9).

With respect to claim 6, the user may select feature extraction results to display (for example, see page 8). It is consequently understood that the user has the option to display feature extraction results only for outlier features and feature backgrounds.

Concerning claims 9-14, results of the feature extraction may be displayed as graphical objects superimposed over the displayed image of the molecular array (for example, see page 39). For example a green cross will be displayed on “poor” features (see page 39). It is understood that such teachings may be readily extended to indicate other items, such as statistically valid features, statistically invalid features, statistically valid backgrounds, statistically invalid feature backgrounds, and the position of features, as used to determine the poor features (see pages 38-39, for example). As such indications are arbitrary, these indications may comprise figures like recited in claims 11 and 12, and have colors like expressed in claims 13 and 14.

Concerning claims 15 and 24-26, ImaGene teaches: displaying an image of a molecular array; and superimposing graphical objects over positions of features on the displayed image of the molecular array, a displayed graphical object representing a result of a feature extraction process for the feature over which the displayed graphical object is superimposed on the displayed image of the molecular array, as is described above. It is understood that the results of such visually displayed results. For example, the results of such feature extraction may be saved

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in a text file, which may be forwarded or communicated to a remote location, as known in the art (for example, see pages 17-19).

With respect to claim 18, the user may select feature extraction results to display (for example, see page 8). It is consequently understood that the user has the option to display feature extraction results only for outlier features and feature backgrounds.

Concerning claims 19-23, results of the feature extraction may be displayed as graphical objects superimposed over the displayed image of the molecular array (for example, see page 39). For example a green cross will be displayed on “poor” features (see page 39). It is understood that such teachings may be readily extended to indicate other items, such as statistically valid features, statistically invalid features, statistically valid backgrounds, statistically invalid feature backgrounds, and the position of features, which are used to determine the poor features (see pages 38-39, for example). As such indications are arbitrary, these indications may comprise figures like recited in claims 20 and 21, and have colors like expressed in claims 22 and 23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-8 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the ImaGene application, as is described above, and also over U.S. Patent No. 6,437,800, which is attributed to Malamud et al. (and hereafter referred to as "Malamud"). As described above, ImaGene teaches a method like that recited in each of claims 1 and 15, whereby a molecular array image is displayed concurrently with feature extraction results associated therewith. A user may position a pointer over the position of a feature, wherein response, extraction results associated with the feature and displayed within a "Quantified Data" dialog box is highlighted (for example, see pages 8-9). Such extraction results comprise alphanumeric information associated with the feature (for example, see pages 8-9). Regarding the claimed invention, however, ImaGene does not explicitly disclose that a tooltip is implemented to display such alphanumeric information, as is expressed in each of claims 7-8 and 16-17. Nevertheless, Malamud teaches displaying a tooltip in response to a user positioning a pointer over a graphical object, wherein the tooltip displays alphanumeric information associated with the object (for example, see column 1, lines 34-49; and column 3, lines 26-47). It would have therefore been obvious to one of ordinary skill in the art, having the teachings of ImaGene and Malamud before him at the time the invention was made, to modify the user interface of ImaGene to include the tooltips of Malamud, so that in response to positioning a cursor over a feature, alphanumeric data

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associated with that feature is displayed in a tooltip. It would have been advantageous to one of ordinary skill to utilize this combination because such tooltips may reduce confusion and the burden of the user when viewing data associated with a feature, as is taught by Malamud (for example, see column 1, lines 15-43).

Conclusion

The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. The applicant is required under 37 C.F.R. §1.111(C) to consider these references fully when responding to this action. The Shams and Gaidoukevitch et al. U.S. Patent cited therein teaches a method, like that of claim 1, for displaying a molecular array and feature extraction data associated therewith, wherein such data includes data indicating the quality of signals extracted from the features.

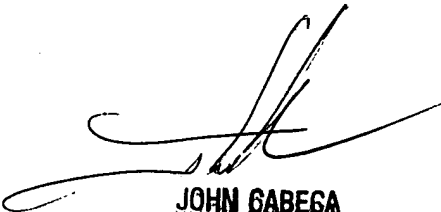
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (571) 272-4044. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

btb



JOHN GABECA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER
CENTER 2100